UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/661,487	09/15/2003	Robert Leon Wallace	HAR65 023	9227

7590 04/07/2006	EXAMINER
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2617	

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Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	10/661,487	WALLACE, ROBERT LEON
	Examiner	Art Unit	
	Suhail Khan	2617	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>20 January 2006</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-25</u> is/are pending in the application.

     4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-25</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

     a)☐ All   b)☐ Some * c)☐ None of:

       1.☐ Certified copies of the priority documents have been received.

       2.☐ Certified copies of the priority documents have been received in Application No. _____.

       3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

     * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section
> 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the
> subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill
> in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the
> invention was made.

2.   Claims 1-5, 7-12, 14-21 and 23-24 rejected under 35 U.S.C. 103(a) as being unpatentable

over U.S. Pat. App. Pub. No. 20040018853 to Lewis, in view of U.S. Pat. App. Pub. No.

2004/0249625 to Leaming.

Referring to **claim 1**, Lewis discloses a software defined radio (page 4, paragraph 42, RF

unit; page 5, paragraph 52, software download for configurations) comprising: a plurality of

communication schemes (page 4, paragraph 27, one or more service modes); a configuration

system for selectively enabling one of the plurality of communication schemes (page 4,

paragraph 27, configuration controller for configuring for supporting one or more service modes)

comprising a processor (page 4, paragraph 42, processor), a smartcard reader (page 1, paragraph

9, SIM card with a data processor) and a memory (page 4, paragraph 34, memory). Lewis does

not disclose that the one of the plurality of communication schemes is selected and enabled by

the processor based on information from a user's smartcard. The examiner maintains that the

concept that a one of the plurality of communication schemes is selected and enabled by the

processor based on information from a user's smartcard was well known in the art as taught by

Leaming.

In a similar field of endeavor, Leaming shows operational mode of the smart card adapter based on signals generated (page 2, paragraph 18) and performing appropriate switching based on the operational mode (page 4, paragraph 39).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Lewis to show a software defined radio comprising: a plurality of communication schemes; a configuration system for selectively enabling one of the plurality of communication schemes comprising a processor, a smartcard reader and a memory; wherein the one of the plurality of communication schemes is selected and enabled by the processor based on information from a user's smartcard, as taught by Leaming, the motivation being performing smart card applications in a plurality of operational modes (Leaming, page 2, paragraph 15).

Referring to **claim 2**, Lewis discloses the software defined radio (page 4, paragraph 42, RF unit; page 5, paragraph 52, software download for configurations) according to claim 1, wherein the plurality of communication schemes includes a plurality of communication protocols (page 4, paragraph 27, one or more service modes).

Referring to **claim 3**, Lewis discloses the software defined radio (page 4, paragraph 42, RF unit; page 5, paragraph 52, software download for configurations) according to claim 1, wherein the plurality of communication schemes (page 4, paragraph 27, one or more service modes) include a plurality of modulation/demodulation techniques (page 5, paragraph 53, configurations relating to possible candidate modulation scheme, optimum mix of modulation methods; page 4, paragraph 42, decoder/demodulator).

Referring to **claim 4**, Lewis discloses the software defined radio (page 4, paragraph 42, RF unit; page 5, paragraph 52, software download for configurations) according to claim 1,

wherein the plurality of communication schemes (page 4, paragraph 27, one or more service modes) include a plurality of coding/decoding techniques (page 2, paragraph 15, different spreading factors and scrambling code links; page 4, paragraph 42, decoder/demodulator).

Referring to **claim 5**, Lewis discloses the software defined radio (page 4, paragraph 42, RF unit; page 5, paragraph 52, software download for configurations) according to claim 1. Lewis does not disclose that the information retrieved from the smart card comprises a communication scheme. The examiner maintains that the concept that the information retrieved from the smart card comprises a communication scheme was well known in the art as taught by Leaming.

In a similar field of endeavor, Leaming shows a smart card adapter that is compatible with a desired operating protocol (page 3, paragraph 29) and performing appropriate switching based on the operational mode (page 4, paragraph 39).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Lewis to show the software defined radio, wherein the information retrieved from the smart card comprises a communication scheme, as taught by Leaming, the motivation being performing smart card applications in a plurality of operational modes (Leaming, page 2, paragraph 15).

Referring to **claim 7**, Lewis discloses the software defined radio (page 4, paragraph 42, RF unit; page 5, paragraph 52, software download for configurations) according to claim 1, comprising a programmable A/D converter or a programmable D/A converter (page 3, paragraph 19, analog to digital converter).

Referring to **claim 8**, Lewis discloses the software defined radio (page 4, paragraph 42, RF unit; page 5, paragraph 52, software download for configurations) according to claim 1, comprising a programmable digital signal processor (page 3, paragraph 19, programmable digital signal processors).

Referring to **claim 9**, Lewis discloses the software defined radio (page 4, paragraph 42, RF unit; page 5, paragraph 52, software download for configurations) according to claim 7, wherein a program for driving the programmable A/D converter or programmable D/A converter (page 3, paragraph 19, analog to digital converter) is stored in the memory (page 4, paragraph 34, memory).

Referring to **claim 10**, Lewis discloses the software defined radio (page 4, paragraph 42, RF unit; page 5, paragraph 52, software download for configurations) according to claim 8, wherein a program for driving the programmable digital signal processor (page 3, paragraph 19, programmable digital signal processors) is stored in the memory (page 4, paragraph 34, memory).

Referring to **claim 11**, Lewis discloses in a software defined radio ("SDR") (page 4, paragraph 42, RF unit; page 5, paragraph 52, software download for configurations), the SDR comprising layered communication information (page 2, paragraph 16, shows physical layer) and plural communication protocols (page 4, paragraph 27, one or more service modes), a method of configuring the SDR (page 5, paragraph 52, software download for configurations). Lewis does not disclose the improvement comprising the steps of: providing a smartcard containing configuration information; retrieving the configuration information from the smartcard; and, configuring the SDR based on the configuration information. The examiner maintains that the

concept that the improvement comprises the steps of: providing a smartcard containing configuration information; retrieving the configuration information from the smartcard; and, configuring the SDR based on the configuration information was well known in the art as taught by Leaming.

In a similar field of endeavor, Leaming shows operational mode of the smart card adapter based on signals generated (page 2, paragraph 18) and performing appropriate switching based on the operational mode (page 4, paragraph 39).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Lewis to show a software defined radio ("SDR"), the SDR comprising layered communication information and plural communication protocols, a method of configuring the SDR, the improvement comprising the steps of: providing a smartcard containing configuration information; retrieving the configuration information from the smartcard; and, configuring the SDR based on the configuration information, as taught by Leaming, the motivation being performing smart card applications in a plurality of operational modes (Leaming, page 2, paragraph 15).

Referring to **claim 12**, Lewis discloses the method of claim 11, further comprising the step of selecting the layered communication information (page 2, paragraph 16, shows physical layer) and plural communication protocols (page 4, paragraph 27, one or more service modes) is based on the configuration information (page 5, paragraph 52, software download for configurations).

Referring to **claim 14**, Lewis discloses the method of claim 11, wherein the step of configuring further comprises selecting and executing stored software modules for driving

generic radio hardware according to the configuration information (page 6, paragraph 53, information downloaded could be a mixture of software and hardware configuration information).

Referring to **claim 15**, Lewis discloses the method of Claim 14, wherein the generic radio hardware is selected from the group consisting of microprocessors, modulators/demodulators, and digital signal processors (page 6, paragraph 53, information downloaded could be a mixture of software and hardware configuration information; page 3, paragraph 19, programmable digital signal processors).

Referring to **claim 16**, Lewis discloses in a software defined radio (SDR) (page 4, paragraph 42, RF unit; page 5, paragraph 52, software download for configurations) comprising multiple link-layered communication protocols (page 4, paragraph 27, one or more service modes), a method for configuring the SDR (page 5, paragraph 52, software download for configurations). Lewis does not disclose the improvement comprising retrieving configuration instructions from a smartcard containing a specific configuration. The examiner maintains that the concept of the improvement comprising retrieving configuration instructions from a smartcard containing a specific configuration was well known in the art as taught by Leaming.

In a similar field of endeavor, Leaming shows operational mode of the smart card adapter based on signals generated (page 2, paragraph 18) and performing appropriate switching based on the operational mode (page 4, paragraph 39).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Lewis to show a software defined radio comprising multiple link-layered communication protocols, a method for configuring the SDK the improvement comprising

retrieving configuration instructions from a smartcard containing a specific configuration, as taught by Leaming, the motivation being performing smart card applications in a plurality of operational modes (Leaming, page 2, paragraph 15).

Referring to **claim 17**, Lewis discloses the method of Claim 16, wherein the specific configuration (page 5, paragraph 52, software download for configurations) includes, modulation/demodulation type, digital processing and operational protocols (page 3, paragraph 19, programmable digital signal processors).

Referring to **claim 18**, Lewis discloses the method of Claim 16, wherein the specific configuration (page 5, paragraph 52, software download for configurations) is selected from the group consisting of AMSSB, FM, PSK, QPSK, QAM, FSK, TDMA, CDMA, FDMA, AMPS, and GSM (page 5, paragraph 46, GSM).

Referring to **claim 19**, Lewis discloses a software defined radio comprising a RF Section (page 4, paragraph 42, RF unit; page 5, paragraph 52, software download for configurations), a IF section and a baseband section (page 3, paragraph 18, signal may be at baseband or at IF), wherein the IF section and the baseband sections are programmable (page 3, paragraph 19, signal is converted to either IF or baseband for despreading), a plurality of software modules containing programs for the IF section and the baseband section (page 3, paragraph 19, signal is converted to either IF or baseband for despreading), the improvement comprising a smart card reader (page 1, paragraph 9, SIM card with a data processor), wherein information retrieved by the smart card reader designates the respective programs for the IF section and the baseband section (page 1, paragraph 9, SIM card with a data processor; page 3, paragraph 18, signal may be at baseband or at IF).

Referring to **claim 20,** Lewis discloses the software defined radio (page 4, paragraph 42, RF unit; page 5, paragraph 52, software download for configurations) of claim 19, wherein the information is based on service requirements of a user (page 1, paragraph 9, user data).

Referring to **claim 21,** Lewis discloses the software defined radio (page 4, paragraph 42, RF unit; page 5, paragraph 52, software download for configurations) of claim 19, wherein the information is based on mission requirements of a user (page 1, paragraph 9, user data).

Referring to **claim 23,** Lewis discloses the software designed radio (page 4, paragraph 42, RF unit; page 5, paragraph 52, software download for configurations) of claim 19, wherein programs are selected from the group enabling AMSSB, FM, PSK, QPSK, QAM, FSK, TDMA, CDMA, FDMA, AMPS, and GSM configurations (page 5, paragraph 46, GSM).

Referring to **claim 24,** Lewis discloses a method for configuring a radio with software for communicating in a wireless environment (page 4, paragraph 42, RF unit; page 5, paragraph 52, software download for configurations), the method comprising the steps of: receiving configuration information from a smart card in communication with the radio (page 1, paragraph 9, SIM card with a data processor), said configuration information allowing the radio to communicate in the wireless environment (page 4, paragraph 27, processor comprising receiver adapted to receive information relating to plurality of service modes). Lewis does not disclose configuring the radio in accordance with the configuration information. The examiner maintains that the concept of configuring the radio in accordance with the configuration information was well known in the art as taught by Learning.

In a similar field of endeavor, Leaming shows operational mode of the smart card adapter based on signals generated (page 2, paragraph 18) and performing appropriate switching based on the operational mode (page 4, paragraph 39).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Lewis to show a method for configuring a radio with software for communicating in a wireless environment, the method comprising the steps of: receiving configuration information from a smart card in communication with the radio; configuring the radio in accordance with the configuration information, said configuration information allowing the radio to communicate in the wireless environment, as taught by Leaming, the motivation being performing smart card applications in a plurality of operational modes (Leaming, page 2, paragraph 15).

3.   Claims 6, 13, 22 and 25 rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. App. Pub. No. 20040018853 to Lewis, in view of U.S. Pat. App. Pub. No. 2004/0249625 to Leaming and further in view of U.S. Pat. App. Pub. No. 2003/0214780 to Oh-Yang et al.

Referring to **claim 6**, the combination of Lewis and Leaming discloses the software defined radio (Lewis, page 4, paragraph 42, RF unit; page 5, paragraph 52, software download for configurations) according to claim 1. Lewis and Leaming do not disclose that the information retrieved from the smartcard comprises a security authorization. The examiner maintains that the concept that the information retrieved from the smartcard comprises a security authorization was well known as taught by Oh-Yang et al.

However, in the similar field of endeavor, Oh-Yang et al show that the information provided by a SIM card includes a security password (page 1, paragraph 6, SIM card is interpreted as being the smartcard).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Lewis and Leaming to show the software defined radio, wherein the information retrieved from the smartcard comprises a security authorization, as taught by Oh-Yang et al., the motivation being applying identification technique for recognizing the user (Oh-Yang et al, page 1, paragraph 5).

Referring to **claim 13,** the combination of Lewis and Leaming discloses the configuration method (Lewis, page 5, paragraph 52, software download for configurations) of claim 11. Lewis and Leaming do not disclose that the configuration information includes authorization information. The examiner maintains that the concept that the configuration information includes authorization information was well known as taught by Oh-Yang et al.

However, in the similar field of endeavor, Oh-Yang et al show that the information provided by a SIM card includes a security password (page 1, paragraph 6, SIM card is interpreted as being the smartcard).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Lewis and Leaming to show that the configuration information includes authorization information, as taught by Oh-Yang et al., the motivation being applying identification technique for recognizing the user (Oh-Yang et al, page 1, paragraph 5).

Referring to **claim 22,** the combination of Lewis and Leaming discloses the software defined radio (Lewis, page 4, paragraph 42, RF unit; page 5, paragraph 52, software download

for configurations) of claim 19. Lewis and Leaming do not disclose that the information is based on the security status of the user. The examiner maintains that the concept that the information is based on security status of the user was well known as taught by Oh-Yang et al.

However, in the similar field of endeavor, Oh-Yang et al show that the information provided by a SIM card includes a security password (page 1, paragraph 6, SIM card is interpreted as being the smartcard).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Lewis and Leaming to show that the information is based on the security status of the user, as taught by Oh-Yang et al., the motivation being applying identification technique for recognizing the user (Oh-Yang et al, page 1, paragraph 5).

Referring to **claim 25**, the combination of Lewis and Leaming discloses the configuration method (Lewis, page 5, paragraph 52, software download for configurations) of claim 24. Lewis and Leaming do not disclose the step of verifying current validity of the smartcard. The examiner maintains that the concept of verifying current validity of the smartcard was well known as taught by Oh-Yang et al.

However, in the similar field of endeavor, Oh-Yang et al show that the information provided by a SIM card includes a security password (page 1, paragraph 6, SIM card is interpreted as being the smartcard).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Lewis and Leaming to show the step of verifying current validity of the smartcard, as taught by Oh-Yang et al., the motivation being applying identification technique for recognizing the user (Oh-Yang et al, page 1, paragraph 5).

Response to Arguments

4.   Applicant's arguments filed 1/20/2006 have been fully considered but they are not persuasive.

Applicant argues that cited prior art does not disclose using configuration information from the smart card to reconfigure the SDR or to select the communication scheme. Examiner respectfully disagrees. In page 1, paragraph 9, Lewis shows a SIM card with a data processor; and a configuration controller for configuring for supporting one or more service modes in page 4, paragraph 27. And, Leaming shows operational mode of the smart card adapter based on signals generated (page 2, paragraph 18) and performing appropriate switching based on the operational mode (page 4, paragraph 39).

5.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

5.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Suhail Khan whose telephone number is (571) 272-7910. The

examiner can normally be reached on M-F from 8 am to 4:30 pm. If attempts to reach the

examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Feild, can be reached

at (571) 272-4090.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

sk

JOSEPH FEILD
SUPERVISORY PATENT EXAMINER